HIGH TEMPERATURE RESONANT TRANSMISSION LINE SENSOR AND METHODS

ABSTRACT OF THE DISCLOSURE

A position sensing system uses a resonant transmission line having a moveable dielectric as a position sensor. The system includes circuitry that supplies a drive signal to the resonant transmission line, which reflects the drive signal. Based on a standing wave signal, which is generated from the drive signal and the reflected drive signal, the circuitry determines the frequency of the sensor drive signal relative to a resonant frequency of the resonant transmission line, and adjusts the sensor drive signal frequency to match a resonant frequency of the transmission line. The circuitry determines the relative position of the moveable dielectric based on the adjusted sensor drive signal frequency.